AMENDMENTS TO THE CLAIMS

9. (NEW) A repeater for receiving a packet, in which a target value of a transfer rate is shown including divided data obtained by dividing transfer data into a prescribed data length, determining a route in a communication network to send out the packet, storing the packet having a determined route in storing means, and sending out the packet stored in the storing means to the communication network by the determined route at set sending time intervals, comprising:

means for calculating the sending time intervals to send out the packet to the communication network, based on the target value of the transfer rate shown in the received packet and the data length of the divided data;

means for setting the sending time intervals thus calculated as the sending time intervals of the packet;

target value determining means for determining means for determining the target value of a delay time required for repeating the packet;

means for calculating a reference value of a storage capacity of the packet to be stored in the storing means, based on the delay time target value and the sending time intervals; and

means for determining the necessity of discarding the packet, based on the reference value of the storage capacity thus calculated and a capacity of the packet stored in the storing means.

10. (NEW) The repeater as set forth in claim 9, further comprising:

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means for detecting the number of discarded packets; and means for changing the setting

of the storage capacity reference value and the sending time intervals, when the number of the

packets thus detected exceeds a prescribed value.

11. (NEW) The repeater as set forth in claim 9, wherein the received packet includes total

delay time information showing the target value of the delay time from a sender to a receiver

and,

the target value determining means detects the number of devices to be passed through on

the route in the communication network from the sender to the receiver, and determines the

target value of the delay time by dividing the time shown by the total delay time information

included in the packet by the number thus calculated.

12. (NEW) The repeater as set forth in claim 11, further comprising:

means for detecting the number of discarded packets; and means for changing the setting

of the storage capacity reference value and the sending time intervals, when the number of the

packets thus detected exceeds a prescribed value.

13. (NEW) The repeater as set forth in claim 9, wherein the received packet includes

remaining delay time information showing the target value of the delay time from its own device

to the transmission destination, and

the target value determining means detects the number of devices to be passed through on

the route in the communication network up to the transmission destination, and determines the

target value of the delay time by dividing the time shown by the remaining delay time

information included in the packet, by the number of the devices thus detected.

14. (NEW) The repeater as set forth in claim 13, further comprising:

means for detecting the number of discarded packets; and

means for changing the setting of the storage capacity reference value and sending time

intervals, when the number of the packets thus detected exceeds a prescribed value.

15. (NEW) A communication system having a transmitter connected to a communication

network and transmitting a packet, and a receiver receiving the packet transmitted from the

transmitter, comprising:

a repeater connected to the communication network, and repeating the packet transmitted

from the transmitter to the receiver, wherein

the repeater received a packet, in which a target value of a transfer rate is shown

including divided data obtained by dividing transfer data into a prescribed data length,

determines a route in a communication network to send out the packet, stores the packet having a

determined route in storing means, and sends out the packet stored in the storing means to the

communication network by the determined route at set sending time intervals, and comprises:

means for calculating the sending time intervals to send out the packet to the

communication network, based on the target value of the transfer rate shown in the received

packet and the data length of the divided data;

means for setting the sending time intervals thus calculated as the sending time intervals of the packet;

target value determining means for determining the target value of a delay time required for repeating the packet;

means for calculating a reference value of a storage capacity of the packet to be stored in the storing means, based on the delay time target value and the sending time intervals; and

means for determining the necessity of discarding the packet, based on the reference value of the storage capacity thus calculated and a capacity of the packet stored in the storing means.

16. (NEW) The communication system as set forth in claim 15, wherein the repeater further comprises:

means for detecting the number of discarded packets; and

means for changing the setting of the storage capacity reference value and the sending time intervals, when the number of the packets thus detected exceeds a prescribed value.

17. (NEW) The communication system as set forth in claim 15, wherein

the received packet includes total delay time information showing the target value of the delay time from a sender to a receiver, and

the target value determining means detects the number of devices to be passed through on the route in the communication network from the sender to the receiver, and determines the

target value of the delay time by dividing the time shown by the total delay time information included in the packet by the number thus calculated.

18. (NEW) The communication system as set forth in claim 11, wherein the repeater further comprises:

means for detecting the number of discarded packets; and

means for changing the setting of the storage capacity reference value and the sending time intervals, when the number of the packets thus detected exceeds a prescribed value.

19. (NEW) The communication system as set forth in claim 15, wherein

the received packet includes remaining delay time information showing the target value of the delay time from its own device to the transmission destination, and

the target value determining means detects the number of devices to be passed through on the route in the communication network up to the transmission destination, and determines the target value of the delay time by dividing the time shown by the remaining delay time information included in the packet, by the number of the devices thus detected.

20. (NEW) The communication system as set forth in claim 19, wherein the repeater further comprises:

means for detecting the number of discarded packets; and

means for changing the setting of the storage capacity reference value and the sending time intervals, when the number of the packets thus detected exceeds a prescribed value.

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21. (NEW) A control circuit, used in a repeater for reviving a packet, in which a target

value of a transfer rate is shown including divided data obtained by dividing transfer data into a

prescribed data length, determining a route in a communication network to send out the packet,

and sending out the packet to the communication network by the route thus determined, for

storing the packet having a determined route in storing means and sending out it to the

communication network, comprising:

means for calculating the sending time intervals to send out the packet to the

communication network, based on the target value of the transfer rate shown in the received

packet and the data length of the divided data;

means for setting the sending time intervals thus calculated as the sending time intervals

of the packet;

means for determining the target value of a delay time required for repeating the packet;

means for calculating a reference value of a storage capacity of the packet to be stored in

the storing means, based on the delay time target value and the sending time intervals;

means for determining the necessity of discarding the packet based on the reference value

of the storage capacity thus calculated and a capacity of the packet stored in the storing means;

and

means for sending out the packet stored in the storing means form the repeater at set

sending time intervals.

22. (NEW) A connector having a first connecting means connected to a repeater to receive a packet in which a target value of a transfer rate is shown including divided data obtained by dividing transfer data into a prescribed data length, determine a route in a communication network to send out the packet and send out the packet having a determined route, and a second connecting means connected to the communication network, comprising:

storing means for storing the packet sent out to the communication network;

means for receiving the packet having the determined route from the repeater through the first connecting means;

means for calculating sending time intervals at which the packet is sent out to the communication network, based on a target value of the transfer rate shown in the received packet and a data length of divided data;

means for setting the sending time intervals thus calculated as the sending time intervals of the packet;

means for determining the target value of a delay time required for repeating the packet;

means for calculating a reference value of a storage capacity of the packet to be stored in the storing means, based on the delay time target value and the sending time intervals;

means for determining the necessity of discarding the packet, based on the reference value of the storage capacity thus calculated and a capacity of the packet stored in the storing means; and

means for sending out the packet stored in the storing means from the second connecting means to the communication network by the determined route at the set sending time intervals.

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23. (NEW) A computer program product for controlling a computer to receive a packet, in which a target value of a transfer rate is shown including divided data obtained by dividing transfer data into a prescribe data length, determine a route in a communication network to send out the packet, store the packet having a determined route in storing means to send out it to the communication network by a computer for sending out the packet to the communication network on the route, wherein the computer program product comprises:

a computer readable storage medium having computer readable program code means embodies in said medium, said computer readable program code means comprising computer instruction means for:

calculating time intervals to send out the packet to the communication network, based on the target value of the transfer rate shown in the received packet and the data length of the divided data;

setting sending time intervals thus calculated as the sending time intervals of the packet;

determining a target value of a delay time required for repeating the packet;

calculating a reference value of a storage capacity of the packet stored in the storing means, based on a delay time target value and the sending time intervals; and

setting the reference value of the storage capacity thus calculated as the storage capacity reference value, used as a criterion for deciding discard of the packet.

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